

REMARKS

Restriction/Election

Examiner has required an election between the invention of Group I, Claims 1-30, and Group II, Claims 31-44, under 35 U.S.C. §121.

During a telephone conversation on December 14, 2004, a provisional election was made without traverse to prosecute the invention of Group I, Claims 1-30.

Applicant hereby affirms the election of Group I, Claims 1-30. Claims 31-44 have been withdrawn from further consideration by the Examiner.

Claim Rejections – 35 U.S.C. §103(a)

Claims 1-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miller (US 4,729,828) in view of O'Brien et al. (US 5,246,854). Applicant respectfully disagrees with Examiner's contentions.

For a §103 obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success,

determined from the vantage point of the skilled artisan at the time the invention was made. MPEP 2143.

Claim 1

Claim 1 recites a treatment system comprising "... a first aerator partially disposed in said first interior through said first container opening, said first aerator comprising a body having a first end and a second end opposite said first end, said body comprising an aerator wall disposed between said first end and said second end, said aerator wall including a plurality of perforations through said aerator wall ... wherein said plurality of perforations formed in said first aerator wall are configured to lift a thin film of said liquid from said first container by exploiting the surface tension of said liquid, wherein said thin film bridges said plurality of perforations, and said first aerator is configured to create a cascading bubbling turbulent flow in said liquid flowing along said first aerator wall, as well as said liquid contained in said first container ...."

Neither Miller nor O'Brien discloses a plurality of perforations configured to lift a thin film of liquid from the first container by exploiting the surface tension of the liquid, wherein the thin film bridges the plurality of perforations, as recited in Claim 1.

Miller clearly does not teach any perforations, let alone the perforations as recited in Claim 1. On Page 3 of the Office Action dated January 10, 2005, Examiner even admits that the "claims differ from Miller by reciting that the aerator or cylindrical wall has a plurality of perforations."

The perforations in O'Brien are not configured to lift a thin film of liquid by exploiting the surface tension of the liquid and have the thin film bridge the plurality of

perforations. The perforations in O'Brien are only designed to collect remaining fungi after the cylinder has been scraped. O'Brien describes "that the cylinder be a hollow perforated, or grooved, rigid cylinder so that after scraping with the doctoring blade, there will remain a sufficient amount of mycelial growth entrapped on the cylinder for regrowth of the fungus." (Col. 3, lines 24-30). A cylinder with perforations that collect fungus is not necessarily configured to lift up a thin film of liquid and have the thin film bridge the perforations. The fact that the perforations in O'Brien would be filled with fungus suggests that not only are they *not* configured to lift up a thin film of liquid with the thin film bridging the perforations, but that there would also be *no motivation* to modify them in this manner. Description of perforations merely being able to collect fungus does not provide sufficient detail to constitute a disclosure of perforations being configured to lift up a thin film of liquid with the thin film bridging the perforations.

Since neither Miller nor O'Brien individually teach the plurality of perforations as recited in claim 1, they cannot teach this limitation in combination.

Even if O'Brien did teach the plurality of perforations as recited in Claim 1, there is no suggestion or incentive that would motivate one skilled in the art to modify Miller to include these perforations. In fact, Miller teaches away from the use of the perforations through the aerator wall, stressing the importance of a high surface area (Col. 4, lines 64-65; Col. 5, lines 10-12). The inclusion of perforations suggested by Examiner would actually decrease and minimize the surface area.

Furthermore, neither Miller nor O'Brien discloses an aerator that is configured to create a cascading bubbling turbulent flow in the liquid flowing along the aerator wall, as well as the liquid contained in the container, as recited in Claim 1. Both Miller and

O'Brien are directed towards rotating biological contactors/reactors for developing a biological culture or mass on the contactor/reactor. As would be appreciated by one skilled in the art, these types of biological contactors/reactors are not configured to create a cascading bubbling turbulent flow as recited in Claim 1. The rotation required by such a configuration would disrupt the development of the biological mass. As noted in O'Brien, the rate of rotation should be "one which will not be so slow that the growing biomass will be deprived of oxygen or so fast as to disrupt its growth. Suitable speeds will typically be from about 2 to about 10 rpm, preferably about 4 to about 7 rpm." (Col. 3, lines 54-59). As would be appreciated by one skilled in the art, the configured rotation of biological contactors/reactors is insufficient for creating a cascading bubbling turbulent flow as recited in Claim 1.

Applicant respectfully submits that Claim 1 is patentable over Miller in view of O'Brien. Therefore, Applicant respectfully submits that Claim 1 is currently in condition for allowance.

Reconsideration and withdrawal of this rejection is respectfully requested.

#### Claims 2-21

Since Claims 2-9 and 12-21 depend from Claim 1, Applicant respectfully submits that Claims 2-9 and 12-21 are also patentable as they contain the same limitations as Claim 1. Applicant respectfully submits that Claims 2-9 and 12-21 are currently in condition for allowance.

Claims 10 and 11 have been canceled and their subject matter has been incorporated into Claim 1.

Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 22

The same arguments made above with respect to the patentability of Claim 1 are applicable to the patentability of Claim 22 as well. Therefore, Applicant respectfully submits that Claim 22 is currently in condition for allowance.

Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 23-30

Since Claims 23-26 and 28-30 depend from Claim 22, Applicant respectfully submits that Claims 23-26 and 28-30 are also patentable as they contain the same limitations as Claim 22. Applicant respectfully submits that Claims 23-26 and 28-30 are currently in condition for allowance.

Claim 27 has been canceled and its subject matter has been incorporated into Claim 22.

Reconsideration and withdrawal of this rejection is respectfully requested.

If the Examiner has any questions regarding this application, the Examiner may telephone the undersigned at 775-586-9500.

Respectfully submitted,  
SIERRA PATENT GROUP, LTD.

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A handwritten signature in black ink, appearing to read 'W. Wilbar', is written over the printed name.

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